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# MENTAL TESTS AND PRACTICAL JUDGMENTS.

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This paper is a portion of a considerably longer report of investigations of what Ziehen calls "The Psychopathic Constitution."<sup>2</sup> My aim in this study is many-fold:

1. To correlate the opinions of leading scientific men, here and abroad, as to the methods of diagnosis and treatment of juvenile and adult delinquency.

2. To study a certain number of cases with all the means at hand, in order to point out comparatively the strong and weak points in our method of dealing at present with this class of cases.

3. To make a comparison of the results of tests for attention, association, memory, direction, learning and ethical discrimination upon delinquents, with the results of the same tests upon normal school children of the same school grade as the average school grade of the delinquents at the time they left school.

4. To make a comparison of the results of the above tests upon delinquents with the results of the same tests upon normal individuals in employment who are of the same average chronological age and station in life, and who were of the same average school grade at the time they left school.

5. To compare the results of the above tests upon white delinquents with the results of the same tests upon colored delinquents in the same institution.

6. To study and compare the sense of wrong in delinquents at the time they commit crime with their sense of wrong after they have been convicted and sentenced.

7. To classify empirically fifty Reformatory cases according to the judgments of the heads of the departments in the Reformatory, based upon their day-to-day experience with the cases, and to compare this classification with the results of the various tests.

In the sections of the report published here I present an outline of the tests I have employed upon four groups of subjects (White Reformatory boys, Colored Reformatory boys, school children and adults in employment), a comparison of the findings among the several groups, and finally a comparison of these findings among the Reformatory groups with the practical judgments of Reformatory officials. (See number 7, above.)

In pursuit of my aims I have studied sixty-four cases in the New Jersey State Reformatory for Men, at Rahway, New Jersey. Fifty

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<sup>2</sup>Ziehen. "Psychiatry;" Leipzig, 1911.

cases, half white and half colored, I studied thoroughly. The other fourteen I was obliged to reject because of their inability to read and write or to answer correctly at least seventy per cent of the words presented in the "opposite" test. I also studied, with the same psychological test, including personal, family and educational history, thirteen apprentices and helpers in the Jersey City shops of the Erie Railroad Company, of the same average chronological age and school grade as those of the Reformatory cases. For the opportunity of testing the Erie Railroad employes I am especially indebted to the officers of the Erie Railroad.

I applied the same tests also upon thirteen boys in the fifth grade of the public schools at Caldwell, N. J., which is the same school grade as the average of the Reformatory cases. For this opportunity I am most grateful to Professor D. C. Barnett, Supervising Principal, and to the Board of Education at Caldwell, N. J.

My data are drawn from: (1) a questionnaire, (2) criminal and court records, (3) institutional records, (4) original tests, measurements and interviews, (5) interviews with all of the officers of the institution in reference to each of the cases studied.

Criminal and court records refer to the family and personal history of the individual, including name, age, parentage, place of birth and education, both religious and moral.

Institutional records include the records of Binet-Simon tests, physical examination and medical attendance, together with the history of the individual in school and detail work and department.

The original tests include:

*Physical Tests and Measurements.*—(Criminal Anthropometry.)

1. Standing Height.
2. Sitting Height.
3. Ponderal Index.
4. Cephalometry.
5. Colometry.
6. Dynamometry.
7. Sense Tests.
8. Spirometry.
9. Chest Expansion.

*Mental Tests.*—All of these tests were taken by myself individually for:

1. Attention.
2. Memory.
3. Understanding instructions.
4. Controlled association.
5. Learning.
6. Ethical perception.
7. Sense of wrong.

Interviews were had with each of the cases studied and also original interviews with officers of the institution, to obtain their estimate of each of the cases, based upon their experience with him at the institution.

The detailed description of apparatus and method in the application of the above tests and of the means employed in grading the results of the tests will be of interest only to technical students. They may be found in any manual of physical and mental tests.

In order to analyse the results of my own tests and measurements I wanted to know the judgments of the institutional officers, viz.: the Medical Director, Educational Director, Spiritual Adviser, Military Director, Detail Officer and the Superintendent, in reference to the improbability of the subjects tested. This method is not generally applied as yet, but we ought to know the impressions of competent persons who are in daily contact with the individuals tested.

My interviews with these officers refer to the subject's (1) intelligence; (2) moral judgment; (3) education, (4) habits; (5) improbability.

This constitutes a test of tests. The great trouble with our tests today is that they are too far from the real life of the individual and are thus suspected by men actually dealing from day to day with the cases. We must develop means to measure the affective sensibility which the individual manifests, and possibly these will come to us in terms of tendency rather than capacity. No one of the mental tests now used in the various laboratories has earned a reputation for standardization. The question is asked, "If tests only confirm what we know, or can know from regular contact with the subjects, are they worth while?" If they can put the seal of absolute confirmation on our judgments already found through methods outside of psychological tests, then, I believe, they are worth while. For constructive work there is much difference between thinking we know and knowing. If we get as far with our tests as confirmation of judgment, there is no reason for believing that we must stop there. The probability is that we can get much farther and measure conduct in terms which judgments cannot reach. However, as Dr. Wells says, "If we do not first interpret our tests by our subjects, we shall never understand our subjects through our tests." And now for that.

An analysis of the estimates of the Superintendent, Medical Director, Educational Director and Spiritual Adviser of the institution (these estimates are printed in the record of each individual case) will give the following table of those in the group whom they consider unable to take their place in society. Table I relates to the White and Table II to the Colored subjects.

TABLE I.

*Estimate of those in White group (25) unable to take their place in society.<sup>3</sup>*

	Feeble-minded.	Insane.	Unclassified.	Total.
Superintendent.....	3	4	2	9
Medical Director.....	8	.....	5	13
Educational Director.....	2	1	3	6
Spiritual Adviser.....	1	.....	1	2

TABLE II.

*Estimate of those in the Colored group (25) unable to take their place in society.*

	Feeble-minded.	Insane.	Unclassified.	Total.
Superintendent.....	11	.....	4	15
Medical Director.....	16	.....	1	17
Educational Director.....	3	.....	.....	3
Spiritual Adviser.....	1	.....	.....	1

I have selected the nine cases in the White group mentioned by the Superintendent and tabulated their records in the tests showing their median, average and mean variation with the other 14 in the White group, whom he considers able, after proper treatment, to take their place in society. In like manner I have treated the 13 cases who are placed in this category by the Medical Director.

The general average in accuracy of the cases indicated by the Superintendent and those indicated by the Medical Director are shown together in Table III, and Table IV gives the general average of the same subjects for time.

TABLE III.

*Average Accuracy Score of the 9 subjects unable to take their place in society and the 14 able, as indicated by Superintendent, and that of the 13 subjects unable and 12 able as indicated by Medical Director.*

(All White cases.)

	SUPERINTENDENT.			Controlled Assn. Opposites
	Attention	Direction Easy	Hard	
White ( 9).....	80	77	60	57
White (14).....	84	91	71	72

<sup>3</sup>In addition to the total of 9 the Superintendent mentions two others; one who is unable until sex influence grows less by age, and another who is unable until some mental remedy is found.

	Substitution		Ethical		Memory		
	With Key	No Key	Perception	Auth.	Ver. Ac'cy	Log. Seq.	Aver.
White ( 9).....	89	79	67	52	50	68	67
White (14).....	96	80	77	54	45	75	74

MEDICAL DIRECTOR.

	Attention	Direction			Controlled Assn.	
		Easy	Hard		Opposites	
White (13).....	81	77	66		69	
White (12).....	85	88	71		64	
	Substitution		Ethical		Memory	
	With Key	No Key	Perception	Auth.	Ver. Ac'cy	Log. Seq. Aver.
White (13).....	90	80	66	52	48	71 70
White (12).....	97	82	89	53	48	75 75

TABLE IV.

*Average Time Score of the 9 subjects unable to take their place in society and the 14 able, as indicated by the Superintendent and that of the 13 subjects unable and 12 able as indicated by the Medical Director.*  
(All White cases.)

SUPERINTENDENT.

	Attention	Direction		Controlled Assn.
		Easy	Hard	Opposites Species-genus
White ( 9).....	224''	183''	320''	200'' 2.
White (14).....	192	151	227	131 1.7
	Substitution			
	With Key	No Key	Memory	Average
White ( 9).....	337''	137''	125''	191''
White (14).....	279	109	192	160

MEDICAL DIRECTOR.

	Attention	Direction		Controlled Assn.
		Easy	Hard	Opposites Species-genus
White (13).....	197''	150''	259''	152'' 1.9
White (12).....	205	154	255	149 1.8
	Substitution			
	With Key	No Key	Memory	Average
White (13).....	305''	133''	115''	164''
White (12).....	285	112	125	160

A much larger number of the Colored group are estimated as unable to take their place in society, and the same analysis will be made of the estimates of this group by the Superintendent and Medical Director. Table V shows the general average of the 15 indicated by the Superintendent as unable, against the 10 who are able, and the 17 indicated by the Medical Director as unable against the 8 who are able to take their place in society. Table VI shows the average time of the same groups.

TABLE V.

*Average Accuracy Score of the 15 subjects unable and the 10 able to take their place in society as indicated by the Superintendent and that of the 17 subjects unable and the 8 able as indicated by the Medical Director.*

(All Colored cases.)

## SUPERINTENDENT.

	Attention	Direction		Controlled Assn.			
		Easy	Hard	Opposites			
Colored (15).....	81	80	58	44			
Colored (10).....	87	86	63	59			
	Substitution		Ethical Perception	—Memory—			
	With Key	No Key		Auth. Ver.	Ac'cy	Log. Seq.	Aver.
Colored (15).....	93	70	76	48	45	68	66
Colored (10).....	97	75	73	50	47	72	70

## MEDICAL DIRECTOR.

	Attention	Direction		Controlled Assn.			
		Easy	Hard	Opposites			
Colored (17).....	79	87	57	46			
Colored ( 8).....	82	84	55	59			
	Substitution		Ethical Perception	—Memory—			
	With Key	No Key		Auth. Ver.	Ac'cy	Log. Seq.	Aver.
Colored (17).....	96	76	78	43	44	61	66
Colored ( 8).....	93	90	76	58	50	75	72

TABLE VI.

*Average Time Score of the 15 subjects unable and the 10 able to take their place in society as indicated by the Superintendent and that of the 17 subjects unable and the 8 able as indicated by the Medical Director.*

(All Colored cases.)

## SUPERINTENDENT.

	Attention	Direction		Controlled Assn.	
		Easy	Hard	Opposites	Species-genus
Colored (15).....	199"	200"	369"	201"	2. "
Colored (10).....	185	207	314	194	1.7
	Substitution		Memory	Average	
	With Key	No Key			
Colored (15).....	327"	121"	125"	193"	
Colored (10).....	295	120	108	178	

## MEDICAL DIRECTOR.

	Attention	Direction		Controlled Assn.	
		Easy	Hard	Opposites	Species-genu
Colored (17).....	186"	192"	335"	187"	1.2"
Colored ( 8).....	222	226	372	222	2.
	Substitution		Memory	Average	
	With Key	No Key			
Colored (17).....	328"	113"	119"	182"	
Colored ( 8).....	258	135	149	198	

From Table III we see that the average accuracy of the Superintendent's 9 White cases is 7 per cent under the average accuracy of the other 14 White cases whom he considers able to take their places; while the Medical Director's 13 White cases are 5 per cent under the balance of 12 White cases whom he considers able to take their places. As to average time, Table V shows the Superintendent's cases slower by 31'' and the Medical Director's slower by 4'' than those who in their judgment are able to take their place in society.

In the Colored group the Superintendent's 15 cases are 4 per cent lower in accuracy than the remaining 10, and the Medical Director's 17 cases are 6 per cent lower than the remaining 8 cases; while in time the Superintendent's 15 cases are 15'' slower than the remaining 10 and the Medical Director's 17 cases are 16'' faster than the balance of 8 cases (Table VII).

Taking all the subjects whom the Superintendent estimates as unable, we find an average in accuracy of 66.5 per cent against 72 per cent average for the balance; while in time the average is 192'' against 169'' for the balance of the group.

For the Medical Director's total cases we have an average of 68 per cent against 73.5 per cent for the balance; and in time an average of 173'' against an average of 179'' for the balance of the group.

The following are typical forms in which the officers of the Reformatory have expressed their judgment of the cases:

#### CASE NO. 1.

*Superintendent.*—"Moral defective."

*Medical Director.*—"Neurotic; curable."

*Educational Director.*—"Good sense of right and wrong; will make good."

*Spiritual Adviser.*—"No sharp sense of right and wrong; will not make good."

*Military Director.*—"Will be a thief all his life."

*Detail Officer.*—"Good environment will make him right."

#### CASE NO. 2.

*Superintendent.*—"Feebleminded."

*Medical Director.*—"Mentally defective; incurable."

*Educational Director.*—"Childish; will not make good."

*Spiritual Adviser.*—"Mentally defective; will not make good."

*Military Director.*—"A fool; a degenerate."

*Detail Officer.*—"Lacks in mental ability."



## CASE NO. 3.

*Superintendent.*—"Confirmed criminal."

*Medical Director.*—"Feebleminded."

*Educational Director.*—"Defective; no capacity."

*Spiritual Adviser.*—"Mentally normal. No sharp sense of right and wrong; probably will not make good."

*Military Adviser.*—"Sneak thief and always will be."

*Detail Officer.*—"Derelict; industrious; a wild boy."

## CASE NO. 4.

*Superintendent.*—"Insane."

*Medical Director.*—"Neurotic; incurable."

*Educational Director.*—"Will not make good."

*Spiritual Adviser.*—"Mentally normal; no apperception for right; will not make good."

*Military Director.*—"Crazy."

*Detail Officer.*—"Crazy."

## CASE NO. 5.

*Superintendent.*—?

*Medical Director.*—"Feebleminded."

*Educational Director.*—"Will not make good."

*Spiritual Adviser.*—"Mentally normal; knows right and wrong; will make good."

*Military Director.*—"Sneak thief, although professing reform, will have to show me."

*Detail Officer.*—"Leader; above normal."

An analysis of this estimate of all the cases shows that for 17 the judgments of the six officers agree; in eight there is a practical agreement, while as to 22 cases they differ, and in 3 cases there is a wide variation. Probably the same percentage of variation would show if a similar analysis were made in all institutions dealing with mental and moral delinquents. When our tests are sufficiently perfected and standardized, then our institutional officers can have regular conferences over the inmates, and have standards by which to be guided.

Reference to Tables I and II and the estimates of the Educational Director, Spiritual Adviser and Detail Officer show that these three officers, who are in daily contact with the cases, and have a closer personal acquaintance with them than other officers, estimate a much smaller number as unable to take their place in society than the Superintendent and Medical Director; that the officers in daily contact with these cases attribute to a larger number a good sense

of right and wrong. The estimate of the Military Director shows the point of view of the policeman in that a large number “know the difference between right and wrong” but commit crime deliberately. If space permitted an analysis could be made of the judgment of the Educational Director and the others who are in close contact with the subjects each day, as to their characteristics.

We will now take the score in accuracy for each of the 7 White cases which the Superintendent and Medical Director agree upon as unable to take their place in society and compare the same with the score of the Erie Employees. It follows in Table VII, and a similar comparison for time will be found in Table VIII.

TABLE VII.

*Accuracy Score of Erie R. R. employes and 7 White cases estimated as unable to take their place in society by both the Superintendent and Medical Director.*

	Binet.	Attention.	Direction.		Control- led Assn.		Substitution.		Memory.			
			Easy.	Hard.	Oppo- sites.	Key.	No Key.	Ethical Percep.	Authen.	Ver. Accy	Log. Seq	Average.
Erie (13).....	82	82	82	66	54	97	84	73	53	49	73	71
Case 2.....	15	80	75	50	58	97	94	80	55	50	75	71
Case 4.....	15	58	20	42	49	53	22	.....	50	50	75	41
Case 6.....	13	96	90	70	50	98	84	100	65	50	75	77
Case 10.....	A	78	85	60	80	98	92	20	60	50	75	69
Case 15.....	A	82	85	70	68	94	92	.....	45	50	75	72
Case 17.....	10	80	85	95	65	99	46	.....	45	50	75	71
Case 20.....	15	64	85	25	28	80	90	70	25	50	25	54

TABLE VIII.

*Time Score of Erie R. R. employes and 7 White cases estimated as unable to take their place in society by both the Superintendent and Medical Director.*

	Attention.	Direction.		Controlled Assn.		Substitution.		Mem- ory.	Aver- age.
		Easy.	Hard.	Op- posites.	Species- gen.	With Key.	No Key.		
Erie (13)....	209"	220"	361"	231"	2.4	321"	154"	167"	208"
Case 2.....	245	311	550	372	2.2	492	259	106	292
Case 4.....	146	213	239	166	1.8	332	65	160	165
Case 6.....	242	150	242	60	1.7	260	135	135	153
Case 10.....	130	145	177	278	2.0	314	137	100	160
Case 15.....	184	110	280	157	1.2	270	115	107	153
Case 17.....	206	310	320	232	2.3	485	270	166	248
Case 20.....	221	150	310	120	3.1	320	135	106	170

Tables VII and VIII show that two of the cases are equal at 71 per cent with the Erie accuracy average and two are better with one

a little below the Erie average and two very much below; while in time all are quicker than the Erie, except two. The three lower in accuracy are Nos. 4, 10 and 20, and the two slower in time Nos. 2 and 17. Of these five cases the only ones estimated as feebleminded are No. 2 by the Superintendent and Nos. 2 and 20 by the Medical Director. The Binet Test classifies both at 15 years.

In the Colored group there are 10 whom the Superintendent and the Medical Director agree upon as unable to take their place. The following Table IX sets out the accuracy of each of these; and Table X shows the same comparison in time.

TABLE IX.

*Accuracy Score of Erie R. R. employes and 10 Colored cases estimated as unable to take their place in society by both the Superintendent and Medical Director.*

	Binet.	Attention.	Direction.		Cont. Assn.	Substitution.	
			Easy.	Hard.	Opposites.	Key.	No Key.
Erie (13).....	-----	82%	82%	66%	54%	97%	87%
Case 26.....	A	88	80	70	45	96	84
Case 27.....	11	92	80	90	15	98	88
Case 32.....	15	96	100	55	75	93	90
Case 34.....	11	88	70	65	70	100	98
Case 36.....	12-15	84	65	35	58	97	66
Case 41.....	9	88	60	50	35	95	100
Case 42.....	12	80	95	50	55	98	78
Case 43.....	10	56	95	35	48	99	98
Case 47.....	12	70	60	65	48	94	-----
Case 50.....	15	94	95	60	33	92	68

  

	Ethical Perception.	Memory.			Average.
		Auth.	Verb. Accy.	Log. Seq.	
Erie (13).....	73%	53%	49%	73%	71%
Case 26.....	90	45	50	75	72
Case 27.....	-----	80	50	75	74
Case 32.....	90	15	25	25	61
Case 34.....	100	65	50	75	78
Case 36.....	50	30	50	75	61
Case 41.....	90	45	25	75	66
Case 42.....	80	55	50	75	71
Case 43.....	50	30	50	75	63
Case 47.....	90	45	50	75	59
Case 50.....	70	50	50	75	68

TABLE X.

*Time Score of Erie R. R. employes and 10 Colored cases estimated as unable to take their place in society by both the Superintendent and Medical Director.*

	Attention.	Direction.		Controlled Assn.	
		Easy.	Hard.	Opposites.	Species-genus.
Erie (13).....	209"	220"	361"	231"	2.4"
Case 26.....	165	195	374	255	1.8
Case 27.....	280	210	330	127	2.8
Case 32.....	166	208	483	218	1.4
Case 34.....	152	180	320	194	1.1
Case 36.....	191	150	342	199	3.2
Case 41.....	184	300	329	234	2.5
Case 42.....	252	180	391	368	2.6
Case 43.....	221	300	433	224	1.5
Case 47.....	164	240	582	272	1.7
Case 50.....	190	125	372	253	2.4
Substitution.					
	Substitution.		Memory.	Average.	
	With Key	No Key.			
Erie (13).....	321"	154"	167"	208"	
Case 26.....	346	122	85	192	
Case 27.....	225	95	148	164	
Case 32.....	340	192	295	237	
Case 34.....	250	124	127	168	
Case 36.....	370	160	104	189	
Case 41.....	305	95	121	196	
Case 42.....	350	155	145	230	
Case 43.....	380	210	79	231	
Case 47.....	480	.....	100	229	
Case 50.....	400	135	90	195	

From Tables IX and X we see that one of the Colored cases is equal in accuracy with the Erie average; three are better; six are below; while in time six are quicker than the Erie and four are slower. The six lower in accuracy are Nos. 32, 36, 41, 43, 47 and 50; and the four slower in time are Nos. 32, 42, 43, and 47. These cases are all estimated as feeble-minded by both the Superintendent and Medical Director.

The Binet tests classify No. 41, 9 years; No. 43, 10 years; Nos. 27 and 34, 11 years; Nos. 36, 42 and 47, 12 years; Nos. 32 and 50 as 15 years and No. 26 as adult.

These comparisons show that the judgments of the Superintendent and Medical Director as to 7 White cases who are unable to take their place in society are confirmed by the tests in 5 cases; and in the group of 10 Colored whom they estimate as unable to take their place in society, their judgment is confirmed by the tests in 7 cases, i. e., 70 per cent in each group and for the total. In other words, in 17 cases which are regarded by either one or both of these officials as feeble-minded, the tests show that 70 per cent are below normal in mental capacity. This does not mean that the remaining 30 per cent are able to take their place in society after proper treatment, but rather that other tests must be developed to measure the normal judgment, affective sensibility and power of will in cases of delinquency.